

A system and method is provided for introducing in-band network management packets (INMPs) in a Multi-Protocol Label Switching (MPLS) network. This system and method of the invention uses INMPs for carrying OA&M information to label switching routers (LSRs) for effectively managing and operating MPLS-based networks. This system and method of the invention also includes techniques for distinguishing INMPs from user packets in an MPLS network. The system and method of the invention further includes using a predetermined code in a shim header of an MPLS packet to determine whether an MPLS packet is an INMP or a user packet. The predetermined code may be provided in an experimental field or a time-to-live field in the shim header of the packet. Alternatively, a label may be reserved for distinguishing an INMP from a user packet.

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